Patent Claims

1. A Coriolis gyro (1'), having a first and a second resonator (70_1, 70_2), which are each in the form of a coupled system comprising a first and a second linear oscillator (3_1, 3_2, 4_1, 4_2), with the first resonator (70_1) being mechanically/electrostatically connected/coupled to the second resonator (70_2) such that the two resonators can be caused to oscillate in antiphase with one another along a common oscillation axis (72).

2. The Coriolis gyro (1') as claimed in claim 1, characterized in that the configurations of the first and of the second resonator (70_1, 70_2) are identical, with the resonators (70_1, 70_2) being arranged axially symmetrically with respect to one another with respect to an axis of symmetry (73) which is at right angles to the common oscillation axis (72).

3. The Coriolis gyro (1') as claimed in claim 1 or 2, characterized in that the first oscillators (3_1, 3_2) are each connected by means of first spring elements (5_1 - 5_8) to a gyro frame (7_1 - 7_{14}) of the Coriolis gyro, and the second oscillators (4_1, 4_2) are each connected by second spring elements (6_1 - 6_4) to one of the first oscillators (3_1, 3_2).

4. The Coriolis gyro (1') as claimed in claim 3, characterized in that the second oscillators (4_1, 4_2) are attached/clamped in at one end to the first oscillators (3_1, 3_2) by means of the second spring elements (6_1 - 6_4) and/or the first oscillators (3_1, 3_2) are attached/clamped in at one end to a gyro frame of the Coriolis gyro by means of the first spring elements (5_1 - 5_8).

5. The Coriolis gyro (1') as claimed in claim 3 or 4, characterized by a device for production of

electrostatic fields, by means of which the alignment angle of the first spring elements (5_1 - 5_8) with respect to the gyro frame can be varied, and/or the alignment angle of the second spring elements (6_1 - 6_4) with respect to the first oscillators (3_1, 3_2) can be varied.

6. The Coriolis gyro (1') as claimed in claim 5, characterized by

- a device (10_1 - 10_8, 11_1 - 11_4) by means of which it is possible to determine first signals for the rotation rate and quadrature bias, which occur within the first resonator (70_1), and second signals for the rotation rate and quadrature bias, which occur in the second resonator (70_2),
- control loops (60 - 67) by means of which the alignment/strength of the electrostatic fields is regulated such that the first and the second quadrature bias are each as small as possible, and
- a computation unit, which uses the first and second signals to determine the rotation rate, and uses an in-phase component of the electrostatic fields which compensate for the first and second quadrature biases to determine the acceleration to be measured.

7. A method for selective or simultaneous measurement of rotation rates and accelerations using a rotation rate Coriolis gyro (1') which has a first and a second resonator (70_1, 70_2) which are each in the form of a coupled system comprising a first and a second linear oscillator (3_1, 3_2, 4_1, 4_2), with the rotation rates being determined by tapping and evaluation of the deflections of the second oscillators (4_1, 4_2), having the following steps:

- the two resonators (70_1, 70_2) are caused to carry out oscillations in antiphase with one another along a common oscillation axis (72),
- the deflections of the second oscillators (4_1, 4_2) are compared with one another in order to determine an

antiphase deflection component which is a measure of the rotation rate to be measured and/or in order to determine a common in-phase deflection component, which is a measure of the acceleration to be measured,

- calculation of the rotation rate/acceleration to be measured from the in-phase deflection component/antiphase deflection component.

8. The method as claimed in claim 7, characterized in that the common in-phase deflection component is determined as follows:

- a first quadrature bias is determined which occurs within the first resonator (70_1),
- a second quadrature bias is determined which occurs within the second resonator (70_2),
- the first quadrature bias is calculated using the second quadrature bias in order to determine a common quadrature bias component which is proportional to the acceleration to be measured and represents the common in-phase deflection component.

9. The method as claimed in claim 8, characterized in that electrostatic fields are produced in order to vary the mutual alignment of the first and second oscillators (3_1, 3_2, 4_1, 4_2), with the alignment/strength of the electrostatic fields being regulated such that the first and the second quadrature bias are each as small as possible.